

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

JAY E. WIDMAN

Serial No.: 09/904,747

Filed: 07/13/2001

Title: "APPARATUS AND METHOD FOR  
SEALING A CONDUIT"

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Group Art Unit: 2831

Examiner: ESTRADA, ANGEL R.

Atty. Docket No.: 002905.0110

Honorable Commissioner for Patents  
Washington, D.C. 20231

Attention: Board of Patent Appeals and Interferences

Dear Sir:

**APPELLANTS' BRIEF (37 C.F.R. § 1.192)**

This brief is submitted in support of Applicants' Notice of Appeal from the decision dated December 15, 2003 of the Examiner finally rejecting claims 1 through 20 of the subject application. The two-month shortened statutory period for filing the Appeal Brief was due April 13, 2004. This Appeal Brief is therefore considered timely filed.

This brief is transmitted in triplicate per 37 C.F.R. § 1.192.

**I. IDENTIFICATION OF THE REAL PARTY OF INTEREST**

The real party in interest is:

Houston Wire & Cable Company  
10201 North Loop East  
Houston, Texas 77029

by virtue of assignments by Jay E. Widman.

## **II. IDENTIFICATION OF RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences.

## **III. STATUS OF ALL THE CLAIMS, PENDING OR CANCELLED, AND IDENTIFYING THE CLAIMS APPEALED**

### **A. Status of all claims, pending or cancelled**

The application as originally filed contained 14 claims. Claims 15-20 were added during prosecution. Claims 1, 13 and 15 are independent claims. Claims 2-12 are dependent on claim 1, claim 14 is dependent on claim 13, and claims 16-20 are dependent on claim 15. All pending claims of the present application are reproduced in Appendix A, attached hereto.

### **B. The claims appealed**

Claims 2 to 4, 6 to 8, 12, and 14 to 20 are appealed. Applicant elects not to appeal claims 1, 5, 9 to 11, and 13, but reserves the right to further prosecute them at a later date.

## **IV. STATUS OF ANY AMENDMENT FILED SUBSEQUENT TO FINAL REJECTION**

Applicant has not filed an amendment subsequent to final rejection.

## **V. SUMMARY OF THE INVENTION**

The present invention is a sealed conduit system and a method for sealing a metal conduit from, *e.g.*, gases, vapors and flames. The sealed conduit system is not susceptible to fracturing and eliminates the necessity of stuffing packing material into difficult-to-reach areas with very limited visibility. This assures that the sealant remains in the seal and prevents the passages of vapors, gases, and/or flames.

Figure 1 illustrates the apparatus for sealing a conduit in accordance with the present invention. The apparatus is shown generally by reference numeral 10. The apparatus 10 couples opposing ends of a conduit 12 to each other by hermetically sealing the inside of the conduit and its contents, namely wires and/or cables 14, from the outside.

The apparatus 10 includes a housing 16, which is formed of a generally cylindrically-shaped mid-section 18, and a pair of oppositely mounted free running hubs 20 and 22. The cylindrically-shaped mid-section 18 of the housing 16 is formed of metal, preferably an aluminum alloy.

The free running hubs 20 and 22 are generally conical in shape. Female threads are formed on the inside surface of the conical portion of the hubs 20 and 22. One female thread is adapted to mate with a male thread formed at the opposing ends of the conduit 12 being joined and sealed by the apparatus 10. Another female thread is adapted to mate with a male thread formed at the opposing ends of the mid-section 18. The female and male threads are taper-tapped to match each other, and each has at least five full threads, to insure a tight seal. The taper of the threads adapted for mating the free running hubs 20 and 22 with the mid-section 18 terminates at shoulders 32 and 34, which coincide with the end of the female threads near the center of the free running hubs 20 and 22.

Disk-shaped flexible membranes 36 and 38 are placed against shoulders 32 and 34, respectively. The disk-shaped flexible membranes 36 and 38 are preferably formed of neoprene, and are preferably approximately 125 millimeters thick and approximately 0.50 to 3.50 inches in diameter, depending on the diameter of the seal necessary to match the size conduit in question. The membranes 36 and 38 have a raised surface formed of a plurality of indentations in a symmetrical pattern. The membranes 36 and 38 also have openings, in the form of slits, through which the wires/cables 14 can be accommodated. The openings in the membranes 36 and 38 are

smaller than the outer diameter of the wires/cables 14 so that the membranes form an interference fit around the outer diameter of the wires/cables. This interference fit helps to hermetically seal the inside of the conduit 12 from the outside environment.

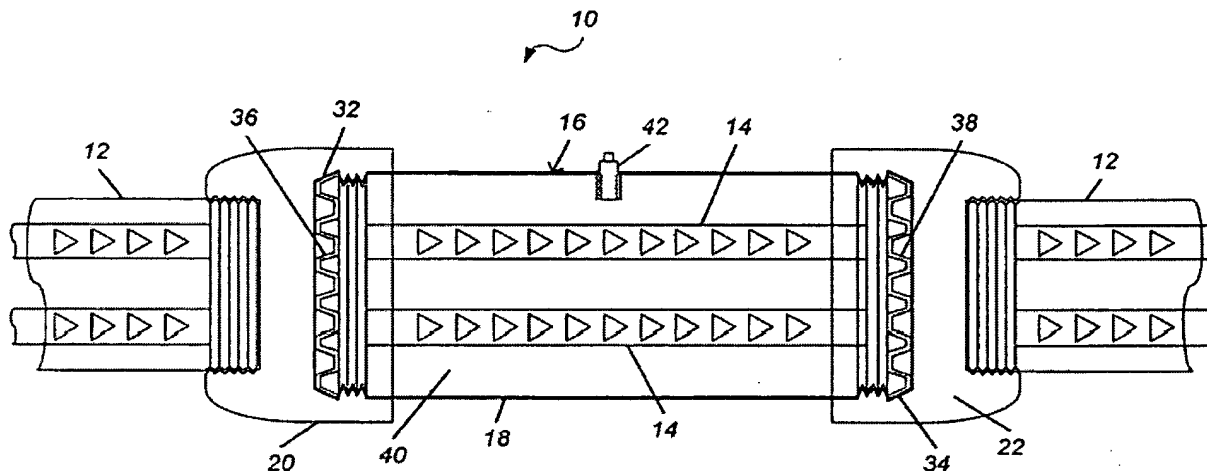
The housing 16 has an inner chamber 40, which is defined by the regions formed inside of the cylindrical mid-section 18 and inside of the tapered section of the free running hubs 20 and 22. The inner chamber 40 separates the inside of the apparatus 10 from the outside environment. The flexible membranes 36 and 38 retain the polyurethane-based epoxy sealant compound within the inner chamber 40.

A port is formed in the cylindrical mid-section 18 of the housing 16. It is threaded and adapted to mate with a threaded plug 42. The threaded plug 42 is removable and used to release any air, other gases and/or moisture trapped inside of the inner chamber 40. The threaded plug 42 is also used to open the port so that the polyurethane-based epoxy sealant compound can be injected into the chamber 40 and can be inspected.

When the inner chamber 40 is filled, the injection device is removed and the inner chamber is sealed. After the inner chamber 40 is filled, some air may be trapped in the inner chamber. This air is released by removing the threaded plug 42 as described above. As those of ordinary skill in the art will appreciate, other mechanisms may be used in place of the threaded plug 42 to fill the inner chamber 40 in the manner described.

The polyurethane-based epoxy sealant compound preferably comprises a polymer and a monomer. Furthermore, the polyurethane-based epoxy sealant compound does not allow water to migrate through the seal into the inside of the conduit 12. Therefore, the apparatus 10 does not require a drain or breather plug. However, the plug 42 can be modified to perform the function of a drain or breather plug where needed. Indeed, the threaded plug 42 can be modified to allow moisture to flow out of the inner chamber 40 at a rate of 50 cc (cubic centimeters) per

minute and air to flow out at a rate of 0.2 cubic feet per minute at atmospheric pressure, by utilizing a spring-loaded ball-type valve assembly calibrated for the desired flow of air and/or moisture.



**FIG. 1**

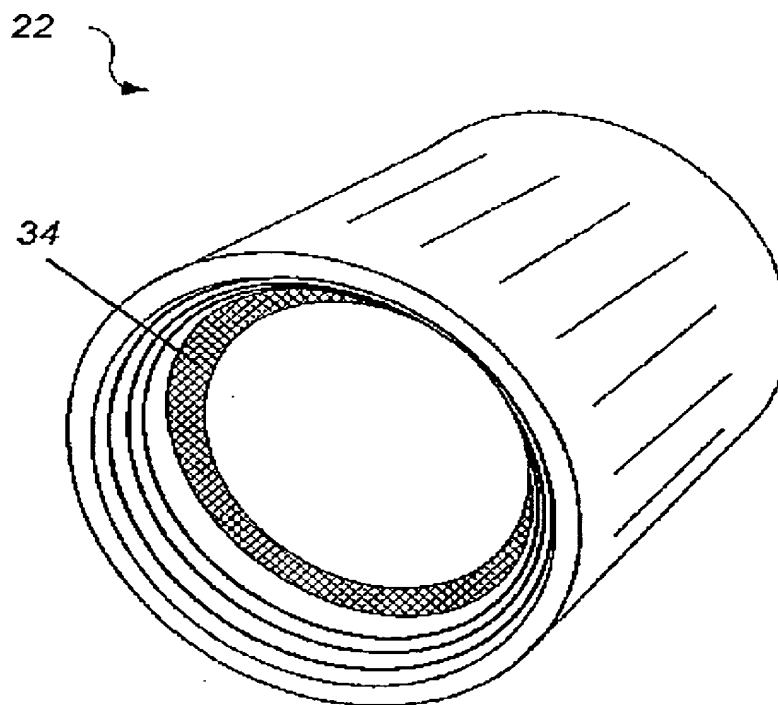
The apparatus 10 is preferably assembled as follows. First, the cylindrically-shaped mid-section 18 and free running hubs 20 and 22 are formed. The free running hubs 20 and 22 are die cast into their desired shape. The inner partially conical surface is then taper-tapped to form at least five female threads on each side, as described above. The flexible membranes 36 and 38 are also formed using conventional techniques.

Once the basic components of the device are formed, the device is ready for assembly. The flexible membranes 36 and 38 are positioned in the free running hubs 20 and 22, and more specifically, against the shoulders 32 and 34. The flexible membranes 36 and 38 are sized such that their diameters are slightly larger than the internal diameters of the free running hubs 20 and 22 so that the membranes fit snugly within the free running hubs. The free running hubs 20 and 22 are then attached to the cylindrically-shaped mid-section 18 of the housing 16 through a male-female thread connection. As those of ordinary skill in the art will appreciate, there are a number

of alternative and equivalent means of securing the mid-section 18 to the free running hubs 18.

Finally, the threaded port, or valve, 42 is formed in, and attached to, respectively, the cylindrically-shaped mid-section 18. These steps in the assembly can take place before or after assembly of the mid-section 18 and free running hubs 20 and 22. The threaded port, or valve, 42 are conventional devices, which can be manufactured using known techniques.

Figure 2 illustrates a free running hub in accordance with the present invention. The female thread of the free running hub 22 adapted to mate with the mid-section (not shown) is adjacent to the shoulder 34. A flexible membrane (not shown) may be placed against the shoulder to form a seal to contain sealant compound within the mid-section.



**FIG. 2**

## **VI. CONCISE STATEMENT OF THE ISSUES PRESENTED FOR REVIEW**

A. Applicant contests the Examiner's assertion that Cameron (USPN 5,560,655) teaches a means for purging fluid from a conduit, as contemplated by Applicant's invention.

The Examiner relies on Cameron, combined with other references, to support final rejections under 35 U.S.C. 103(a) of claims 2 to 4, 14, and 16. The Examiner states that Cameron teaches a purging means. Applicant respectfully contests the Examiner's interpretation of Cameron. Applicant does not believe that Cameron teaches this limitation, and thus, Cameron, even in combination with the other references cited by the Examiner, neither anticipates the claimed invention nor renders it obvious.

B. Applicant contests the Examiner's combination of the disclosures of Uber (USPN 1,824,642) and Hutchison (USPN 4,301,325).

The Examiner combines Uber with Hutchison to support final rejections under 35 U.S.C. 103(a) of claims 6 to 8, 15, 17 and 18. The Uber-Hutchison combination is further combined with other references to support final rejections under 35 U.S.C. 103(a) of claims 16, 19, and 20. The Examiner states that Uber and Hutchison may be combined to provide a conduit system having at least one free running hub having an inside surface with a first set of female threads. Applicant respectfully contests the Examiner's suggestion that Uber and Hutchison may be combined in such manner. Applicant does not believe that Uber and Hutchison may be combined, even with the other references cited by the Examiner, so as to anticipate the claimed invention nor render it obvious.

C. Applicant contests the Examiner's combination of the disclosures of Uber (USPN 1,824,642) and Kaesser et al. (USPN 3,761,601).

The Examiner combines the teachings of Uber and Kaesser et al. to finally reject

claim 12 under 35 U.S.C. 103(a). Applicant respectfully submits that Uber and Kaesser et al. may not be combined to form a sealed conduit system that would anticipate the claimed invention nor render it obvious.

## **VII. GROUPING OF CLAIMS**

Claims 2 to 4 and 14 stand or fall together, claims 6 to 8, 15, and 17 to 20 stand or fall together, claim 12 stands or falls on its own, and claim 16 stands or falls on its own.

## **VIII. ARGUMENTS OF THE APPELLANTS, WITH EACH ISSUE IN SEPARATE HEADINGS, WITH RESPECT TO EACH ISSUE PRESENTED FOR REVIEW**

A. Applicant contests the Examiner's assertion that Cameron (USPN 5,560,655) teaches a means for purging fluid from a conduit, as contemplated by Applicant's invention.

### **1. With respect to claim 2**

With respect to claim 2, the Examiner states that Uber combined with Cameron disclose the claimed sealed conduit system comprising (a) a metal conduit having at least one end; (b) a housing having an inner chamber and an outer surface; (c) at least one free running hub coupled to said housing and the at least one end of said metal conduit; (d) a flexible membrane disposed within said at least one free running hub; and (e) means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing. In particular, the Examiner relies on Cameron to teach the purging means. *See* Office Action dated Dec. 15, 2003, at 3. Applicant respectfully submits that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Indeed, the Cameron reference teaches away from the purging means contemplated by Applicant's invention.

The Examiner identifies element 11 of Cameron's disclosure as comprising the



alleged purging means. *See id.* However, Applicant respectfully submits that Cameron's element 11 is quite the opposite of a purging means that discharges fluid from a conduit system; it is instead an injection means that introduces a lubricant into the conduit system. *See* Cameron, Col. 3, ll. 24-26. Moreover, the purging or discharge of fluid from the conduit system is expressly prohibited by Cameron:

The lubrication fitting 11 includes an internal one-way valve 31 that permits injection of a lubricant into the central bore 15 but automatically closes to prevent reverse flow of lubricant outwardly through the fitting 11.

Cameron, Col. 3, ll. 24-28; *see also id.* at Col. 5, ll. 66-67 through Col. 6, ll. 1-5 (describing a preferred embodiment of the one-way valve that is central to element 11, and emphasizing once more that it prevents outward flow from the conduit system); *id.* at Col. 7, ll. 21-22 and 35-45 (same).

Because Cameron does not disclose a purging means as contemplated by Applicant's claim 2, but rather teaches away from such purging means, and because the Uber reference does not disclose the requisite purging means, Applicant respectfully suggests that the cited combination of Uber and Cameron does not teach the limitations of claim 2, and thus, neither anticipates the claimed invention nor renders it obvious.

2. With respect to claims 3 and 4

Claims 3 and 4 each depend from claim 2, discussed immediately above. To the limitations of claim 2, claim 3 adds the further limitation that the purging means comprises a threaded port formed in the housing and a threaded plug, which is adapted to mate with the threaded port. Claim 4 adds, to the limitations of claim 2, the further limitation that the purging means comprises a spring-loaded ball-type valve. In finally rejecting both claims 3 and 4, the Examiner relies on Cameron to teach the purging means. *See* Office Action dated Dec. 15, 2003,

at 3. Applicant respectfully submits that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Indeed, as shown immediately above in the discussion of claim 2, the Cameron reference does not disclose a purging means, but rather, teaches away from the purging means contemplated by Applicant's invention. Nor does the Uber reference disclose the requisite purging means. Applicant therefore respectfully submits that the cited combination of Uber and Cameron does not teach the limitations of either claim 3 or claim 4, and thus, neither anticipates the claimed invention nor renders it obvious.

3. With respect to claim 14

With respect to claim 14, the Examiner states that Uber combined with Cameron combined with Klein (USPN 4,456,784) disclose the claimed method of sealing a metal conduit, comprising the steps of: coupling a sealing apparatus comprising a housing having an inner chamber and an outer surface, at least one free running hub having an inner surface, and a flexible membrane disposed within the at least one free running hub to at least one end of the metal conduit; threading any wires or cables contained within said metal conduit through said flexible membrane; filling the inner chamber with a polyurethane-based epoxy sealant compound; and releasing any air, other gases, or moisture, which may be trapped in the inner chamber after it is filled with the epoxy sealant compound, through a purging means. In particular, the Examiner relies on Cameron to teach the purging means. *See* Office Action dated Dec. 15, 2003, at 8. Applicant respectfully submits that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Indeed, as shown above in the discussion of claim 2; the Cameron reference does not disclose a purging means, but rather, teaches away from the purging means contemplated by Applicant's invention. Further, neither the Uber reference nor the Klein reference discloses the requisite purging means. Applicant therefore respectfully submits that the cited combination of Uber, Klein, and Cameron does not

teach the limitations of claim 14, and thus, neither anticipates the claimed invention nor renders it obvious.

4. With respect to claim 16

With respect to claim 16, the Examiner states that Uber combined with Cameron combined with Hutchison (USPN 4,301,325) disclose the claimed sealed conduit system, comprising: a metal conduit having at least one end; a housing having an inner chamber and an outer surface; at least one free running hub having an inner surface and a first and second coupling, wherein the first coupling comprises a first set of female threads formed on said inner surface for mating with the at least one end of the metal conduit and said second coupling comprises a second set of female threads formed on said inner surface for mating with an end of the housing; a flexible membrane disposed within said at least one free running hub; and means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing. Applicant respectfully traverses the Examiner's rejection, and respectfully suggests that the Examiner has improperly combined Uber with Hutchison, and that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Applicant respectfully submits that claim 16 stands or falls on its own, apart from all the other appealed claims, because the Examiner's rejection of claim 16 relies on both an improper combination of Uber and Hutchison, as well as an incorrect characterization of the Cameron reference.

In finally rejecting claim 16, the Examiner relies on Cameron to teach the purging means. *See* Office Action dated Dec. 15, 2003, at 9. Applicant respectfully submits that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Indeed, as shown above in the discussion of claim 2, the Cameron reference does not disclose a purging means, but rather, teaches away from the purging means contemplated by Applicant's invention. Further, neither the Uber reference nor the Hutchison reference discloses the requisite purging

means. With respect to the Uber-Hutchison combination, Applicant's arguments are presented in section B, *infra*. Applicant therefore respectfully submits that the cited combination of Uber, Hutchison, and Cameron does not teach the limitations of claim 16, and thus, neither anticipates the claimed invention nor renders it obvious.

B. Applicant contests the Examiner's combination of the disclosures of Uber (USPN 1,824,642) and Hutchison (USPN 4,301,325).

1. With respect to claim 6

With respect to claim 6, the Examiner states that Uber combined with Hutchison disclose the claimed sealed conduit system comprising: a metal conduit having at least one end; a housing having an inner chamber and an outer surface; at least one free running hub coupled to said housing and the at least one end of said metal conduit; and a flexible membrane disposed within said at least one free running hub, wherein the housing is defined by a mid-section, which is substantially cylindrically shaped, and two free running hubs are disposed on, and mounted to, opposite ends of the mid-section, and wherein the free running hubs are partially conical in shape and have an inside surface, which has a first set of female threads formed thereon for mating with the ends of the metal conduit. In particular, the Examiner states that "[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to make Uber's hubs inside surface with a first set of female threads as taught by Hutchison . . . ." See Office Action dated Dec. 15, 2003, at 4.

Applicant respectfully contests the Examiner's suggestion that one of ordinary skill in the art at the time of the invention would, or even could, combine the disclosures of Uber and Hutchison in the manner suggested by the Examiner. From the outset, Applicant respectfully notes that neither Uber nor Hutchison provide any suggestion that their respective

disclosures could be combined. As the Court of Appeals for the Federal Circuit has stated, references may not be combined to support an obviousness rejection under 35 U.S.C. 103 unless the references suggest the desirability and thus the obviousness of making the combination. *See Hodosh v. Block Drug Co.*, 786 F.2d 1136, 1143 n. 5, 229 USPQ 182, 187 n.5 (Fed. Cir. 1986). Furthermore, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. *Id.*; *see also* MPEP 2141. Here, Applicant respectfully suggests that the Examiner has used impermissible hindsight to combine the Uber and Hutchison references in an effort to accumulate all the limitations of the claimed invention, despite the utter absence from either reference of a single suggestion to combine the two references.

Furthermore, as one might expect when references are hypothetically combined absent a suggestion to do so, the couplings disclosed in Uber and Hutchison physically cannot be combined in the manner suggested by the Examiner. The internal threads of Hutchison cannot be provided to the inner surface of Uber's hubs. The inner surface of each of Uber's hubs, shown in Uber's Figure 1 as elements 3 and 4, is occupied with annular-shaped flexible element 9. *See* Uber, pg. 2, ll. 30-50. Uber describes elements 9 as "expandible, compressible, frictional clamping, gripping and sealing" elements. *See id.*, pg. 2, ll. 32-34. It is unlikely that such flexible elements could be provided with internal threads, because the threads would be too flexible to serve any purpose. Furthermore, neither Uber nor Hutchison contain the slightest suggestion to provide a flexible member with internal threads. Because the inner surface of each of Uber's hubs is occupied with an annular-shaped flexible element that cannot be internally threaded, Applicant respectfully submits that the couplings disclosed in Uber and Hutchison cannot be combined in the manner suggested by the Examiner.

Still further, even if it were possible to combine the couplings disclosed in Uber

and Hutchison in the manner suggested by the Examiner, one of ordinary skill in the art at the time of the invention would not have been motivated to make the combination, because Uber's flexible element and Hutchison's internal threads are each used in the respective disclosures for the same purpose—to couple the hub's inner surface with the outer surface of the conduit. That Hutchison's internal threads couple the hub to threads on the outer surface of the conduit may be seen from Hutchison, Figure 1. That Uber's annular-shaped flexible element 9 performs the same function is similarly evident:

[E]lements 9 . . . clamp and frictionally grip the pipe or line sections whereby such sections are securely coupled together in a manner to prevent leakage and the separation thereof.

Uber, pg. 2, ll. 88-91; *see also id.*, pg. 2, ll. 111-114. Thus, even if one of ordinary skill could combine Uber and Hutchison as suggested by the Examiner, one of ordinary skill in the art would not have been motivated to do so.

Accordingly, Applicant respectfully submits that the cited combination of Uber and Hutchison does not render the claimed invention obvious, because: (a) the couplings disclosed in Uber and Hutchison cannot be combined in the suggested manner; (b) neither reference discloses a suggestion to combine the disclosures in the suggested manner; and (c) one of ordinary skill at the time of the invention would not have been motivated to combine the disclosures in the suggested manner.

2. With respect to claims 7 and 8

Claim 7 depends from claim 6, discussed immediately above. To the limitations of claim 6, claim 7 adds the further limitation that the inside surface of the free running hubs has a second set of female threads formed thereon for mating with the ends of the cylindrically-shaped mid-section and a shoulder adjacent to the second set of female threads. Claim 8 depends from claim 7. Claim 8 adds, to the limitations of claim 7, the further limitation that a flexible

membrane is disposed on the inside surface of each of the free running hubs adjacent to the shoulder.

In finally rejecting both claims 7 and 8, the Examiner relies on a combination of Uber and Hutchison to meet the limitations of claim 6, from which claim 7 directly depends and from which claim 8 indirectly depends. *See* Office Action dated Dec. 15, 2003, at 4. Applicant respectfully submits that the Examiner has improperly combined the Uber and Hutchison disclosures. Indeed, as shown immediately above in the discussion of claim 6, the couplings disclosed in the Uber and Hutchison disclosures cannot be combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. Applicant therefore respectfully submits that the references cited by the Examiner do not render claims 7 and 8 obvious.

3. With respect to claim 15

With respect to claim 15, the Examiner states that Uber combined with Hutchison disclose the claimed sealed conduit system, comprising: a metal conduit having at least one end; a housing having an inner chamber and an outer surface; at least one free running hub having an inner surface and a first and second coupling, wherein the first coupling comprises a first set of female threads formed on said inner surface for mating with the at least one end of the metal conduit and said second coupling comprises a second set of female threads formed on said inner surface for mating with an end of the housing; and a flexible membrane disposed within said at least one free running hub. In particular, the Examiner states that “[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to make Uber’s hubs inside surface with a first set of female threads as taught by Hutchison . . . .” *See* Office Action dated Dec. 15, 2003, at 4.

Applicant respectfully submits that the Examiner has improperly combined the Uber and Hutchison disclosures. Indeed, as shown above in the discussion of claim 6, the couplings disclosed in the Uber and Hutchison disclosures cannot be combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. Applicant therefore respectfully submits that the references cited by the Examiner do not render claim 15 obvious.

4. With respect to claim 16

With respect to claim 16, the Examiner states that Uber combined with Cameron combined with Hutchison disclose the claimed sealed conduit system, comprising: a metal conduit having at least one end; a housing having an inner chamber and an outer surface; at least one free running hub having an inner surface and a first and second coupling, wherein the first coupling comprises a first set of female threads formed on said inner surface for mating with the at least one end of the metal conduit and said second coupling comprises a second set of female threads formed on said inner surface for mating with an end of the housing; a flexible membrane disposed within said at least one free running hub; and means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing. Applicant respectfully traverses the Examiner's rejection, and respectfully submits that the Examiner has improperly combined Uber with Hutchison, and that the Examiner has incorrectly characterized what is disclosed in the Cameron reference. Applicant respectfully submits that claim 16 stands or falls on its own, apart from all the other appealed claims, because the Examiner's rejection of claim 16 relies on both an improper combination of Uber and Hutchison, as well as an incorrect characterization of the Cameron reference.

With respect to the improper combination of Uber and Hutchison, Applicant's



arguments have been presented in detail above in the discussion of claim 6, and may be summarized by stating that the couplings disclosed in the Uber and Hutchison disclosures cannot be combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. With respect to the incorrect characterization of the Cameron reference, Applicant's arguments presented in section A, *supra*, illustrate that Cameron does not teach the purging means limitation of Applicant's claim 16; rather, Cameron teaches away from the use of a purging means, and neither the Uber nor the Hutchison reference discloses the requisite purging means.

Accordingly, Applicant respectfully submits that the cited combination of Uber, Hutchison and Cameron does not teach all the limitations of the claimed invention, and thus, neither anticipates the claimed invention nor renders it obvious.

5. With respect to claims 17 and 18

Claims 17 and 18 each depend from claim 15, discussed above. To the limitations of claim 15, claim 17 adds the further limitation that the housing is defined by a mid-section, which is substantially cylindrically shaped, and two free running hubs are disposed on, and mounted to, opposite ends of the mid-section. Claim 18 adds, to the limitations of claim 15, the further limitation that the flexible membrane is disposed adjacent to a shoulder formed in the inner surface of the at least one free running hub proximate said second coupling.

In finally rejecting both claims 17 and 18, the Examiner relies on a combination of Uber and Hutchison to meet the limitations of claim 15, from which both claims depend. *See* Office Action dated Dec. 15, 2003, at 4-5. Applicant respectfully submits that the Examiner has improperly combined the Uber and Hutchison disclosures. Indeed, as shown above in the discussion of claim 6, the couplings disclosed in the Uber and Hutchison disclosures cannot be

combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. Applicant therefore respectfully submits that the references cited by the Examiner do not render claims 17 and 18 obvious.

6. With respect to claim 19

With respect to claim 19, the Examiner states that Uber combined with Hutchison combined with Klein (USPN 4,456,784) disclose the claimed sealed conduit system. Claim 19 depends from claim 15, and adds, to the limitations of claim 15, the further limitation that the claimed sealed conduit system further comprises a sealant compound disposed within the inner chamber, which comprises a polyurethane-based epoxy.

The Examiner relies on a combination of Uber and Hutchison to meet the limitations of claim 15, from which claim 19 depends. *See* Office Action dated Dec. 15, 2003, at 4-5. Applicant respectfully submits that the Examiner has improperly combined the Uber and Hutchison disclosures. Indeed, as shown above in the discussion of claim 6, the couplings disclosed in the Uber and Hutchison disclosures cannot be combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. Furthermore, the cited Klein reference discloses nothing that remedies the improper combination of Uber and Hutchison. Applicant therefore respectfully submits that the references cited by the Examiner do not render claim 19 obvious.

7. With respect to claim 20

With respect to claim 20, the Examiner states that Uber combined with Hutchison combined with Kaesser et al. (USPN 3,761,601) disclose the claimed sealed conduit system. Claim 20 depends from claim 15, and adds, to the limitations of claim 15, the further limitation

that the flexible membrane is generally disk-shaped, formed of neoprene and has at least one opening for accommodating one or more cables.

The Examiner relies on a combination of Uber and Hutchison to meet the limitations of claim 15, from which claim 20 depends. *See* Office Action dated Dec. 15, 2003, at 4-5. Applicant respectfully submits that the Examiner has improperly combined the Uber and Hutchison disclosures. Indeed, as shown above in the discussion of claim 6, the couplings disclosed in the Uber and Hutchison disclosures cannot be combined in the manner suggested by the Examiner, nor does either reference suggest such combination, nor would one of ordinary skill in the art at the time of the invention have been motivated to make such combination. Furthermore, the cited Kaesser et al. reference discloses nothing that remedies the improper combination of Uber and Hutchison. Accordingly, Applicant respectfully submits that the couplings in the references cited by the Examiner cannot be combined so as to meet all the limitations of claim 15, from which claim 20 depends.

Further, Applicant respectfully contests the Examiner's suggestion that the cited combination of Uber, Hutchison and Kaesser meets the limitations of claim 20. Applicant respectfully contests the Examiner's suggestion that the cited combination of Uber, Hutchison and Kaesser discloses a sealed conduit system having a disk-shaped flexible membrane with at least one opening for accommodating one or more cables. As discussed in greater detail in Part C, *infra*, Uber discloses a flexible element that is annular-shaped, not disk-shaped, and that accommodates an adjacent piece of pipe rather than comprising at least one opening for accommodating one or more cables. The cited Hutchison disclosure provides nothing to the Uber disclosure in this regard. While Kaesser discloses an elastomeric gasket (34) that may accommodate multiple wires, *see* Kaesser, Figs. 1, 5, and 6, any modification of Uber's flexible element to resemble the elastomeric gasket of Kaesser would be fatal to the sealing ability of

Uber's apparatus, as discussed in greater detail in Part C, *infra*.

Accordingly, Applicant respectfully submits that the couplings in the references cited by the Examiner could not be combined so as to meet all the limitations of the claimed invention, and therefore, neither anticipate the claimed invention nor render it obvious.

C. Applicant contests the Examiner's combination of the disclosures of Uber (USPN 1,824,642) and Kaesser et al. (USPN 3,761,601).

The Examiner states that Uber, combined with Kaesser et al., disclose the claimed sealed conduit system, comprising: a metal conduit having at least one end; a housing having an inner chamber and an outer surface; at least one free running hub coupled to said housing and the at least one end of said metal conduit; and a flexible membrane disposed within said at least one free running hub, wherein the flexible membrane is generally disk-shaped, formed of neoprene and has at least one opening for accommodating one or more cables.

As was the case with the Examiner's combination of Uber and Hutchison, discussed in Part B, *supra*, Applicant respectfully notes here, with respect to the Uber-Kaesser combination, that neither Uber nor Kaesser et al. provide any suggestion that their respective disclosures could be combined. As the Court of Appeals for the Federal Circuit has stated, references may not be combined to support an obviousness rejection under 35 U.S.C. 103 unless the references suggest the desirability and thus the obviousness of making the combination. *See Hodosh*, 786 F.2d at 1143 n. 5, 229 USPQ at 187 n.5. Furthermore, the references must be viewed without the benefit of impermissible hindsight vision afforded by the claimed invention. *Id.*; *see also* MPEP 2141. Here, Applicant respectfully suggests that the Examiner has used impermissible hindsight to combine the Uber and Kaesser et al. references in an effort to accumulate all the limitations of the claimed invention, despite the utter absence from either

reference of a single suggestion to combine the two references.

Furthermore, Applicant respectfully contests the Examiner's suggestion that the combination of the Uber and Kaesser et al. disclosures meets all the limitations of the claimed invention. The Examiner states that "Uber discloses the sealed conduit system . . . wherein the flexible membrane (10) is generally disk shaped and has at least one opening for accommodating one or more cables. . . ." *See* Office Action dated Dec. 15, 2003, at 7-8. Applicant respectfully submits that the Examiner mischaracterizes the Uber disclosure, in that Uber's flexible membrane is annular-shaped, rather than disk-shaped, and accommodates an adjacent piece of pipe rather than comprising at least one opening for accommodating one or more cables. As a preliminary matter, Applicant respectfully points out that the flexible membrane of Uber is actually element 9; element 10 is disclosed as merely an outer end of flexible membrane 9. *See* Uber, pg. 2, ll. 32-35 (disclosing element 9 as the flexible membrane); *id.* ll. 51 (disclosing element 10 as an outer end of element 9). Moreover, Uber clearly discloses that flexible membrane 9 is annular-shaped, rather than disk-shaped, stating that "element 9 is in the form of an annulus. . . ." *Id.*, ll. 41-42. Furthermore, Uber's annular flexible membrane 9 does not accommodate individual wires or cables, as the Examiner suggests. Rather, Uber's annular flexible membrane 9 seals against a section of adjoining pipe. *See id.*, ll. 47-50 ("The inner diameter of element 9 is such as to enable the convenient shifting of a pipe or line section therethrough when setting up the union."). Applicant respectfully submits that Uber simply does not disclose a disk-shaped flexible membrane having at least one opening for accommodating one or more cables, as required by claim 12.

While Kaesser discloses an elastomeric gasket (34) that may accommodate multiple wires, *see* Kaesser, Figs. 1, 5, and 6, the elastomeric gasket of Kaesser could not be added to Uber's apparatus without preventing Uber's apparatus from accepting and sealing

against the outer surface of a section of adjacent pipe—thereby defeating what is essentially the primary goal of Uber’s apparatus. That Uber’s invention relies on the annular-shaped flexible membrane 9 to couple the hub’s inner surface with the outer surface of a section of adjacent pipe may be seen from the following:

[E]lements 9 . . . clamp and frictionally grip the pipe or line sections whereby such sections are securely coupled together in a manner to prevent leakage and the separation thereof.

Uber, pg. 2, ll. 88-91; *see also id.*, pg. 2, ll. 111-114. The impropriety of adding the elastomeric gasket of Kaesser to the apparatus of Uber is further demonstrated by viewing Fig. 3 of Uber, which displays a cross-section of a hub comprising annular flexible element 9, sealing against adjacent pipe section 2—the presence of the elastomeric gasket of Kaesser would prevent pipe section 2 from even entering Uber’s hub. Accordingly, were one of ordinary skill in the art to add the elastomeric gasket of Kaesser to Uber’s apparatus, Uber’s reconfigured apparatus would only be able to accept individual wires, and could not be connected to, much less seal against, adjacent pipe—defeating the objective of the Uber reference. *Cf.* Uber, pg. 1, ll. 13-20 (“A further object of the invention is to . . . enable the coupling together of a pair of pipe sections or line sections without the necessity of exteriorly or interiorly threading such sections . . .”).

Applicant respectfully submits that there is no suggestion in either the Uber nor the Kaesser et al. reference to form the suggested combination, and that the couplings in the Uber and Kaesser et al. reference could not physically be combined so as to meet all the limitations of the claimed invention. Accordingly, Applicant respectfully submits that the cited references neither anticipate the claimed invention nor render it obvious.

### **SUMMARY**

In light of the foregoing, Applicant respectfully requests that the final rejection of the pending claims should be reversed, and the application be remanded for allowance of the

appealed claims, which Applicant will rewrite in independent format where necessary upon receipt of such favorable decision by the Board.

Applicant believes that there are no additional fees due in association with the filing of this Appeal Brief. However, should the Commissioner deem any additional fees as being due, including any fees for any additional extensions of time, the Commissioner is requested to accept this as a Petition Therefor, and is hereby authorized to charge any additional fees due, or to credit any overpayment, to Baker Botts L.L.P. Deposit Account No. 02-0383, Order Number 002905.0110 under 37 C.F.R. § 1.16 or § 1.17.

Respectfully submitted,

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Date: April 13, 2004

ATTORNEYS FOR APPLICANTS

**APPENDIX A**

1. A sealed conduit system, comprising:
  - (a) a metal conduit having at least one end;
  - (b) a housing having an inner chamber and an outer surface;
  - (c) at least one free running hub coupled to said housing and the at least one end of said metal conduit; and
  - (d) a flexible membrane disposed within said at least one free running hub.
2. A sealed conduit system according to claim 1, further comprising means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing.
3. A sealed conduit system according to claim 2, wherein the purging means comprises a threaded port formed in the housing and a threaded plug, which is adapted to mate with said threaded port.
4. A sealed conduit system according to claim 2, wherein the purging means comprises a spring-loaded ball-type valve.
5. A sealed conduit system according to claim 1, wherein the housing is defined by a mid-section, which is substantially cylindrically shaped, and two free running hubs are disposed on, and mounted to, opposite ends of the mid-section.
6. A sealed conduit system according to claim 5, wherein the free running hubs are partially conical in shape and have an inside surface, which has a first set of female threads formed thereon for mating with the ends of the metal conduit.
7. A sealed conduit system according to claim 6, wherein the inside surface of the



free running hubs has a second set of female threads formed thereon for mating with the ends of the cylindrically-shaped mid-section and a shoulder adjacent to the second set of female threads.

8. A sealed conduit system according to claim 7, wherein a flexible membrane is disposed on the inside surface of each of the free running hubs adjacent to the shoulder.

9. A sealed conduit system according to claim 1, further comprising a polyurethane-based epoxy sealant compound disposed within said inner chamber.

10. A sealed conduit system according to claim 9, wherein the polyurethane-based epoxy sealant compound comprises a polymer and a monomer.

11. A sealed conduit system according to claim 1, wherein the housing is formed of an aluminum alloy.

12. A sealed conduit system according to claim 1, wherein the flexible membrane is generally disk-shaped, formed of neoprene and has at least one opening for accommodating one or more cables.

13. A method of sealing a metal conduit, comprising the steps of:

(a) coupling a sealing apparatus comprising a housing having an inner chamber and an outer surface, at least one free running hub having an inner surface, and a flexible membrane disposed within the at least one free running hub to at least one end of the metal conduit;

(b) threading any wires or cables contained within said metal conduit through said flexible membrane; and

(c) filling the inner chamber with a polyurethane-based epoxy sealant compound.

14. A method of sealing a metal conduit according to claim 13, further comprising the step of releasing any air, other gases, or moisture, which may be trapped in the inner chamber after it is filled with the epoxy sealant compound, through a purging means.

15. A sealed conduit system, comprising:

- (a) a metal conduit having at least one end;
- (b) a housing having an inner chamber and an outer surface;
- (c) at least one free running hub having an inner surface and a first and second coupling, wherein the first coupling comprises a first set of female threads formed on said inner surface for mating with the at least one end of the metal conduit and said second coupling comprises a second set of female threads formed on said inner surface for mating with an end of the housing; and
- (d) a flexible membrane disposed within said at least one free running hub.

16. A sealed conduit system according to claim 15, further comprising means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing.

17. A sealed conduit system according to claim 15, wherein the housing is defined by a mid-section, which is substantially cylindrically shaped, and two free running hubs are disposed on, and mounted to, opposite ends of the mid-section.

18. A sealed conduit system according to claim 15, wherein the flexible membrane is disposed adjacent to a shoulder formed in the inner surface of the at least one free running hub proximate said second coupling.

19. A sealed conduit system according to claim 15, further comprising a sealant compound disposed within said inner chamber, which comprises a polyurethane-based epoxy.

20. A sealed conduit system according to claim 15, wherein the flexible membrane is generally disk-shaped, formed of neoprene and has at least one opening for accommodating one or more cables.

## Office Action Summary

**Application No.**

09/904,747

**Applicant(s)**

WIDMAN, JAY E.

**Examiner**

Angel R. Estrada

**Art Unit**

2831

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2003.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Uber (US 1,824,642).

Regarding claim 1, Uber discloses a sealed conduit system (see figure 1) comprising: a metal conduit (1,2; notice the cross section hatching it resembles a metal element) having at least one end (see figure 1); a housing (14) having an inner chamber and an outer surface (see figure 1); at least one free running hub (3,4) coupled to said housing (14) and the at end of said metal conduit (see figure 1); and a flexible membrane (9) disposed within said at least one free running hub (4, see figures 2 or 3).

Regarding claim 5, Uber discloses the sealed conduit system (see figure 1), wherein the housing (14) is defined by a mid-section, which is substantially cylindrically shaped (see figure 1), and two free running hub (3,4) is disposed on, and mounted to, opposite end of the mid-section (see figure 1).

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824,642) in view of Cameron (US 5,560,655).

Regarding claim 2, Uber discloses the claim invention except for the sealed conduit system comprising means for purging any air, other gases or moisture, which may be trapped within the inner chamber of said housing. Cameron teaches a housing for electrical conduits (18, 20) that includes means (11) capable of purging any air, gases or moisture which may be trapped within the inner chamber of said housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide to Uber's housing with means that can purge any air or moisture trapped within the inner chamber of said housing as taught by Cameron to improve the sealing of the conduit.

Regarding claim 3, Cameron teaches the purging means (11) comprise a threaded port (40) formed in the housing (12) and a threaded plug (11), which is adapted to mate with said threaded port (see figure 1 and 3).

Regarding claim 4, Cameron teaches the purging means (11) being a spring-loaded ball-type valve (see figure 4).

3. Claims 6-8, 15, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824, 642) in view of Hutchison (US 4,301,325).

Regarding claim 6, Uber discloses the sealed conduit system (see figure 1) wherein the free running hubs (3, 4) are partially conical in shape (see figure 1) with an inside surface; but Uber lacks the inside surface having a first set of female threads formed thereon for mating with the ends of the metal conduit. Hutchison teaches a sealed conduit system comprising a conduit (2) having at least one end, a free running hub (4) having an inside surface which has a first set of female threads (see figure 1) formed thereon for mating with the end of the conduit (2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Uber's hubs inside surface with a first set of female threads as taught by Hutchison to provide means that would firmly secured conduits with treaded ends to the hub, or to firmly secured Uber existence conduits to the hubs.

Regarding claim 7, Uber discloses the sealed conduit system (see figure 1) wherein the inside surface of the free running hubs (3, 4) has a second set of female threads (see figure 1) formed thereon for mating with the ends of the cylindrically-shaped mid-section (14) and a shoulder (see reference number 6' for illustration purposes only) adjacent to the second set of female threads (see figure 2).

Regarding claim 8, Uber discloses the sealed conduit system (see figure 1) wherein flexible membrane (9) is disposed on the inside surface of each of the free running hubs (3, 4) adjacent to the shoulder (see figure 1 and 2).

Regarding claim 15, Uber discloses the sealed conduit system (see figure 1) comprising a metal conduit (1,2) having at least one end, housing (14) having an inner chamber and an outer surface (see figure 1); at least one free running hub (3,4) having

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an inner surface and a coupling (see figure 2), wherein the coupling comprises a set of female threads (see figure 1) formed on said inner surface for mating with the ends of the housing (4); and a flexible membrane (6) disposed within said at least one free running hub (see figure 1); but Uber lacks a set of female threads formed on said inner surface of the hub for mating with the at least one end of the conduit. Hutchison teaches a sealing conduit system comprising a conduit (2) having at least one end, a free running hub (4) having an inside surface which has a first set of female threads (see figure 1) formed thereon for mating with the end of the conduit (2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to make Uber's hubs inside surface with a first set of female threads as taught by Hutchison to provide means that would firmly secured conduits with treaded ends to the hubs, or to firmly secured Uber existence conduits to the hubs.

Regarding claim 17, Uber discloses the sealed conduit system (see figure 1) wherein the housing (14) is defined by a mid section, which is substantially cylindrically shaped (see figure 1), and two free running hubs (3,4) are disposed on, and mounted to opposite ends of the mid-section (see figure 1).

Regarding claim 18, Uber discloses the sealed conduit system (see figure 1) wherein flexible membrane (9) disposed to a shoulder (6' for illustration purposes) formed in the inner surface of the at least one free running hub (3, 4) proximate said second coupling (see figure 1).



4. Claims 9, 10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824, 642) in view of Klein (US 4,456,784).

Regarding claim 9, Uber discloses the claimed invention except for said sealed conduit comprising a polyurethane-based epoxy sealant compound disposed within said inner chamber. Klein teaches a sealed conduit system (19) comprising a housing having an inner chamber (see figure 3) filled with polyurethane-based epoxy sealant compound (6). It would have been obvious to of ordinary skill in the art at the time the invention was made to fill Uber's inner chamber with a polyurethane-based epoxy sealant compound as taught by Klein to improve the sealing of the conduit by providing a barrier against the flow of vapor through the sealed conduit system.

Regarding claim 10, Klein teaches that said polyurethane-based epoxy sealant compound (6) comprises a polymer and a monomer (column 3 line 9-38).

Regarding claim 13, Uber discloses a method of sealing a metal conduit (1) comprising the steps of coupling a sealing apparatus (see figure 1) comprising a housing (14) having an inner chamber and an outer surface, at least one free running hub (3,4) having an inner surface and a flexible membrane (10) disposed within the at least one free running hub (3,4) to at least one end of the metal conduit (see figure 1); threading any wires or cables (although the reference doesn't discloses the use of cable or wires, it clearly states that the apparatus can be used in any connection it may be found applicable, column 1 lines 3-5) contained within said conduit (1) through said flexible membrane (10); but Uber lacks the step of filling the inner chamber with a polyurethane-based epoxy sealant compound. Klein teaches a sealed conduit system

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comprising the metal conduit (3), comprising a housing having an inner chamber (see figure 3) filled with polyurethane-based epoxy sealant compound (6). It would have been obvious to of ordinary skill in the art at the time the invention made to fill Ubers's housing inner chamber with a polyurethane-based epoxy sealant compound as taught by Klein to improve the sealing of the conduit by providing a barrier against the flow of vapor through the sealed conduit system.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824, 642) in view of Bertini et al (US 6,489,554, hereinafter Bertini).

Regarding claim 11, Uber discloses the claimed invention except for the housing being formed of an aluminum alloy. Beritini discloses a sealed conduit system (see figure 3c) comprising a housing (420) formed of an aluminum alloy (column 7 line 10-15). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Uber's housing of an aluminum alloy as taught by Bertini to reduce the manufacturing costs and provide a housing with good mechanical properties.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824,642) in view of Kaesser et al (US 3,761,601, hereinafter Kaesser)

Regarding claim 12, Uber discloses the sealed conduit system (see figure 1) wherein the flexible membrane (10) is generally disk shaped and has at least one opening for accommodating one or more cables; but Uber lack the flexible membrane

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being formed of neoprene. Kaesser teaches a flexible membrane (34) for accommodating cables (13) being formed of neoprene (column 2 lines 50-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Uber's flexible membrane of neoprene since the use of neoprene as a sealing element, such as a gasket or an O-ring is well known in the art.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824,642) in view of Klein (US 4,456,784) as applied in claim 13 and further in view of Cameron (US 5,560,655).

Regarding claim 14, the modified Uber discloses the claimed invention except for the step of releasing any air, other gases, or moisture, which may be trapped in the inner chamber after it is filled with the epoxy sealant compound, through a purging means. Cameron teaches a housing for electrical conduits (18, 20) that includes means (11) for purging any air, gases or moisture, which may be trapped within the inner chamber of said housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide to the modified Uber's housing with means that can purge any air or moisture trapped within the inner chamber of said housing as taught by Cameron to improve the sealing of the conduit and also to provide means that permit the insertion of insulated materials inside the conduit.

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8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1, 824,642) in view of Hutchison (US 4,301,325) as applied in claim 15, and further in view of Cameron (US 5,560,655).

Regarding claim 16 the modified Uber discloses the claimed invention except for the step of releasing any air, other gases, or moisture, which may be trapped in the inner chamber after it is filled with the epoxy sealant compound, through a purging means. Cameron teaches a housing for electrical conduits (18, 20) that includes means (11) for purging any air, gases or moisture, which may be trapped within the inner chamber of said housing. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide to the modified Uber's housing with means that can purge any air or moisture trapped within the inner chamber of said housing as taught by Cameron to improve the sealing of the conduit and also to provide means that permit the insertion of insulated materials inside the conduit.

9. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824,642) in view of Hutchison (US 4,301,325) as applied in claim 15 and further in view of Klein (US 4,456,784).

Regarding claim 19, the modified Uber discloses the claimed invention except for said sealed conduit system comprising a polyurethane-based epoxy sealant compound disposed within said inner chamber. Klein teaches a sealing conduit system (19) comprising a housing having an inner chamber (see figure 3) filled with polyurethane-based epoxy sealant compound (6). It would have been obvious to of ordinary skill in

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the art at the time the invention was made to fill the modified Uber's inner chamber with a polyurethane-based epoxy sealant compound as taught by Klein to improve the sealing of the conduit by providing a barrier against the flow of vapor through the sealed conduit system.

10. Claim 20 rejected under 35 U.S.C. 103(a) as being unpatentable over Uber (US 1,824,642) in view of Hutchison (US 4,301,325) as applied in claim 15 and further in view of Kaesser et al (US 3,761,601, hereinafter Kaesser).

Regarding claim 12, Uber discloses the sealed conduit system (see figure 1) wherein the flexible membrane (10) is generally disk shaped and has at least one opening for accommodating one or more cables; but Uber lack the flexible membrane being formed of neoprene. Kaesser teaches a flexible membrane (34) for accommodating cables (13) being formed of neoprene (column 2 lines 50-53). It would have been obvious to one having ordinary skill in the art at the time the invention was made to make Uber's flexible membrane of neoprene since the used of neoprene as a sealing element, such as a gasket or an O-ring is well known in the art.

### ***Response to Arguments***

11. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

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***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stagnitti (US 5,466,890), Singletary (US 3,662,087), Boughton (US 2,816,472), Robertson (USA 5,037,318), Risley (US 2,460,032), Johnson III (US 3,424,853) discloses a sealed conduit system.

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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14. Any inquiry concerning this communication should be directed to Angel R. Estrada at telephone number (703) 305-0853. The Examiner can normally be reached on Monday-Friday (8:30 -5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (703) 308-3682. The fax numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-1341 for after final communication.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

AE

November 26, 2003

 12/1/03  
DEAN A. REICHARD  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800

<b>Notice of References Cited</b>	Application/Control No. 09/904,747	Applicant(s)/Patent Under Reexamination WIDMAN, JAY E.	
	Examiner Angel R. Estrada	Art Unit 2831	Page 1 of 1

**U.S. PATENT DOCUMENTS**

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	Classification
	A	US-1,824,642	09-1931	Uber	285/383
	B	US-3,761,601	09-1973	Kaesser et al.	174/65R
	C	US-5,466,890	11-1995	Stagnitti	174/65R
	D	US-3,662,087	05-1972	Singletary, Lloyd G.	174/65R
	E	US-2,816,472	12-1957	Boughton	285/354
	F	US-2,460,032	01-1949	Risley	285/383
	G	US-3,424,853	01-1969	Johnson III	174/65R
	H	US-5,037,318	08-1991	Robertson, John C.	174/65R
	I	US-			
	J	US-			
	K	US-			
	L	US-			
	M	US-			

**FOREIGN PATENT DOCUMENTS**

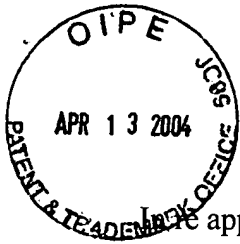
*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

**NON-PATENT DOCUMENTS**

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

\*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)  
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.





PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of:

WIDMAN, JAY E.

Serial No.: 09/904,747

Filed on: July 13, 2001

Entitled: "APPARATUS AND METHOD  
FOR SEALING A CONDUIT"

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§

Group Art Unit: 2831

Examiner: ESTRADA, ANGEL R.

Attorney Docket No.: 002905.0110

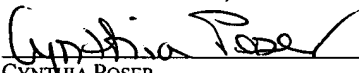
MAIL STOP APPEAL BRIEF - PATENTS  
Honorable Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Attention: Board of Patent Appeals and  
Interferences

CERTIFICATE OF MAILING VIA EXPRESS MAIL

PURSUANT TO 37 C.F.R. 1.10, I HEREBY CERTIFY THAT I HAVE  
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DATE OF MAILING: APRIL 13, 2004  
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TRANSMITTAL FOR APPEAL BRIEF

Dear Sir:

Applicant hereby submits the following documents to be filed with the United States  
Patent and Trademark Office:

1. Appellant's Brief (37 C.F.R. § 1.192) (3 copies);
2. Copies of Patents Referenced in Appellant's Brief (3 copies);
3. Copies of Office Action dated December 15, 2003 (3 copies);
4. Fee Transmittal Form (PTO/SB/17), with duplicate copy for fee processing;

5. Check #884311 in the fee amount of \$165.00, small entity rate, for filing a Brief in support of an Appeal; and
6. Return postcard to acknowledge receipt of these items.

Applicants believe that no additional fees are due. However, should the Commissioner deem any additional fees as being due, including any fees for any additional extensions of time, the Commissioner is hereby requested to accept this as a Petition Therefor, and is further authorized to debit any additional fees due, including any additional extensions of time, or to credit any overpayments, to Baker Botts L.L.P. Deposit Account No. 02-0383, Order No. 002905.0110.

Respectfully submitted,

BAKER BOTTS L.L.P. 023640

By: 

Paul R. Morico

Reg. No. 35,960

Baker Botts, L.L.P.

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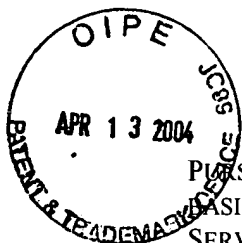
Telephone: 713.229.1732

Facsimile: 713.229.7732

Email: Paul.Morico@bakerbotts.com

ATTORNEY FOR APPLICANTS

DATE: April 13, 2004



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APRIL 13, 2004

04/13/2004  
DATE OF MAILING

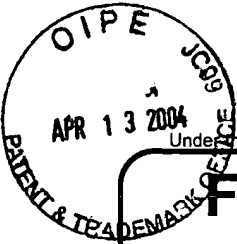
EV339229591US  
EXPRESS MAIL LABEL

U.S.S.N.: 09/904,747  
FILING DATE: JULY 13, 2001  
APPLICANT: WIDMAN, JAY E.  
GROUP ART UNIT: 2831  
EXAMINER: ESTRADA, ANGEL R.  
ATTORNEY DOCKET NO. 002905.0110  
TITLE: "APPARATUS AND METHOD FOR SEALING A CONDUIT"

INCLUDED IN THIS MAILING FOR THE ABOVE-REFERENCED CONTINUATION PATENT APPLICATION ARE:

1. APPELLANT'S BRIEF (37 C.F.R. § 1.192) (3 COPIES);
2. COPIES OF PATENTS REFERENCED IN APPELLANT'S BRIEF (3 COPIES);
3. COPIES OF OFFICE ACTION DATED DECEMBER 15, 2003 (3 COPIES);
4. FEE TRANSMITTAL FORM (PTO/SB/17), WITH DUPLICATE COPY FOR FEE PROCESSING;
5. CHECK #884311 IN THE FEE AMOUNT OF \$165.000, SMALL ENTITY RATE, FOR FILING A BRIEF IN SUPPORT OF AN APPEAL;
6. RETURN POSTCARD TO ACKNOWLEDGE RECEIPT OF ABOVE ITEMS.

ATTORNEY CONTACT: PAUL R. MORICO  
REG. NO. 35,960  
BAKER BOTTS L.L.P.  
TELEPHONE: 713.229.1732  
FACSIMILE: 713.229.7732  
EMAIL: PAUL.MORICO@BAKERBOTTSCOM  
PTO ID NUMBER: **023640**



4-14-04 JIMOSE AF/2831\$

PTO/SB/17 (10-03)  
Approved for use through 07/31/2006. OMB 0651-0032  
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# FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ ) 165.00

## Complete if Known

Application Number	09/904,747
Filing Date	July 13, 2001
First Named Inventor	Widman, Jay E.
Examiner Name	Estrada, Angel R.
Art Unit	2831
Attorney Docket No.	002905.0110

## METHOD OF PAYMENT (check all that apply)

☒ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 02-0383  
Deposit Account Name: Baker Botts L.L.P.

The Director is authorized to: (check all that apply)

☐ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

### 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	
SUBTOTAL (1)			(\$ ) 0.00

### 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	-20** =	X	
Multiple Dependent	-3** =	X	

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	86	2201	43	Independent claims in excess of 3
1203	290	2203	145	Multiple dependent claim, if not paid
1204	86	2204	43	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

\*\*or number previously paid, if greater; For Reissues, see above

## FEE CALCULATION (continued)

### 3. ADDITIONAL FEES

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	165.00
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ ) 165.00

## SUBMITTED BY

Name (Print/Type)	Paul R. Morico	Registration No. (Attorney/Agent)	35,960	Telephone	713.229.1732
Signature		Date	April 13, 2004		

**WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.**

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS.  
SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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